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Rejections under 35 U.S.C. §102

Claims 1-7, 10-11, 13, 15, 17-18, 20 and 22 were rejected under 35 U.S.C. §102(e) as

being anticipated by U.S. Patent 6,535,511 issued to Rao, (hereinafter 'Rao').

Rao, U.S. Patent 6,535,511:

Rao describes a system in which embedded addressing information is identified in a

packet by providing a database including a plurality of records. Each record is operable to

identify a packet having embedded addressing information in the packet. Packets are compared to

the database records to determine whether the packets include embedded addressing information.

In response to determining that a packet includes embedded addressing information, the

embedded addressing information is identified in the packet for translation between disparate

addressing systems. (Rao, Abstract). The purpose of Rao is to overcome a problem, described at

column 1, lines 50-53 as:

> "...A problem with Network and Port Address Translation is that some
> applications embed addressing information in their message payload data. This embedded
> addressing information is also to be translated when the packet is crossing the boundary.
> Unfortunately the translation function does not have the knowledge of the application
> packet format nor does it know if the packet has embedded addressing information.
> Therefor it is not possible for the translation function in the border routers to translate
> such data packets without specific knowledge of such applications and their packet
> formats...."

The basic elements of Rao are shown in Figure 1, whereby a border router 12 includes a

translation table and a translation engine. Applicants note that all translation is performed in Rao

at the border router.

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In contrast, each of the independent claims of Applicants application now clearly recites elements of a *distributed* address translation mechanism. For example, claim 1, as amended, now recites "...A private communications network comprising ... an end system configured to communicate with a remote system via a network separate from the private communications network ... *a distributed address translation mechanism* comprising ... *a network application server* to receive a call request from the end system and using an address mapping table configured to communicate with the network application server to generate at least one address mapping responsive thereto; *and a packet modifier device, separate from the network application server* and configured to receive... the at least one address mapping to map communication packets from the end system for transmission on the separate network..."

Applicants note the Rao describes only one Border router. The Examiner had alleged, at page 4 of the Office action, that Rao described such a distributed system at column 4 lines 24-29. However, this portion of the text "... It will be understood that the computer software and data may be otherwise combined and/or divided for processing in or remotely from the router 16 and otherwise stored in system or other suitable memory..." However, although Rao may disclose the use of storage separate from the router, there is no suggestion of performing packet modification at a device separate from address mapping. Such an interpretation of Rao is inconsistent with the embodiments disclosed therein.

The Examiner is referred to Applicant's specification, at pages 9 through 10, which illustrate the advantages of using such a distributed environment. The cited portion of Applicant's specification recites:

"... The NAT packet manipulation function, for example, may be located in a device that efficiently does packet manipulation, such as a router or packet manipulator in a router. However, it is more complex for the router to identify new flows of information and to do address allocation appropriately. In contrast, the address pool can be maintained at a separate server or multiple servers. For example, a pool may be maintained at a caller communications server that is aware of new information flows stemming from new voice over IP (VoIP) calls

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entering or leaving the private network. This can be separate from a pool maintained at another device such as a standard stateful inspection firewall, which inspects regular incoming and outgoing data streams..."

Applicant's respectfully submit that the portion of text cited in Rao by the Examiner does not indicate that Rao had realized any advantage that may be gained by separating functionality, and accordingly would not be motivated to modify the structure taught by Figure 1 to provide such a distributed system.

Accordingly, for at least the reason that Rao fails to disclose every limitation of the claims as a distributed system as recited in independent claims 1, 5, 10, 14 and 17, the rejection under 35 U.S.C. §102 is overcome and should be withdrawn. Dependent claims 2-4, 6-9, 11-13, 15, 16 and 18-22 serve to add further limitations to their parent independent claims, but are allowable for at least the reasons set forth with regard to their parent claims.

Rejections under 35 U.S.C. §103

Claim 21 was rejected under 35 U.S.C. §103 as being unpatentable over Rao in view of Durham et al, "The COPS (Common Open Policy Service Protocol)".

The Examiner relies on Durham as teaching various items about the COPS protocol. However, Applicants submit that no mention or suggestion is found in Durham, alone or in combination with Rao, of a distributed address translation mechanism that uses COPS for communication between different devices which perform different tasks (i.e., address mapping and packet modification) in the address translation process, as described in the claims. Accordingly, for at least the reason that the combination fails to teach the limitations of the claim, it is respectfully requested that this rejection also be withdrawn.

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Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Lindsay G. McGuinness, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

9/15/2004
Date

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